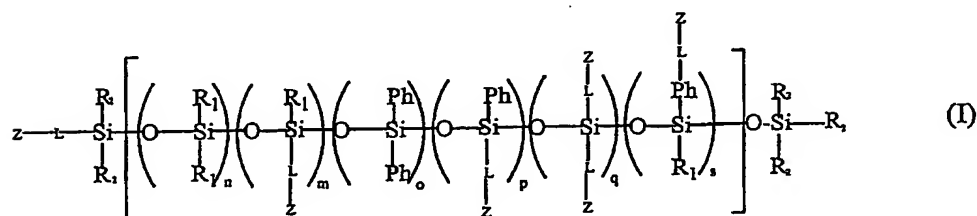


## CLAIMS

- 1 A random or block macromonomer comprising a polysiloxane copolymer  
having a backbone structure derived from siloxane monomer units that are  
substituted or unsubstituted arylsiloxanes, arylalkylsiloxanes,  
5 alky(alkyl)siloxanes of the general formula  $-R_1R_2SiO-$  and in which at least  
one of the terminal groups of the copolymer backbone includes crosslinkable  
groups and in which pendent from the backbone are at least two  
crosslinkable groups, the macromonomer having a molecular weight of more  
than 3,000.
- 10 2 A macromonomer according to claim 1 wherein the crosslinkable groups are  
ethylenically unsaturated groups.
- 3 A macromonomer according to claim 2 wherein the crosslinkable groups are  
(meth)acryl groups.
- 4 A macromonomer according to claim 3 wherein the (meth)acryl groups are  
15 (meth)acrylamide groups or (meth)acrylate groups.
- 5 A random or block macromonomer of general formula:



wherein

- 20 L is a spacer group;  
Z is a crosslinkable group;  
each R<sub>1</sub> is independently C<sub>1</sub> to C<sub>6</sub> alkyl or perfluorinated C<sub>1</sub> to C<sub>6</sub> alkyl;  
each R<sub>2</sub> is independently an R<sub>1</sub> or L-Z group;

the molar percentages of:

n is from 0 to 100%;

m is from 0 to 10%;

o is from 0 to 50%;

5 p is from 0 to 2%;

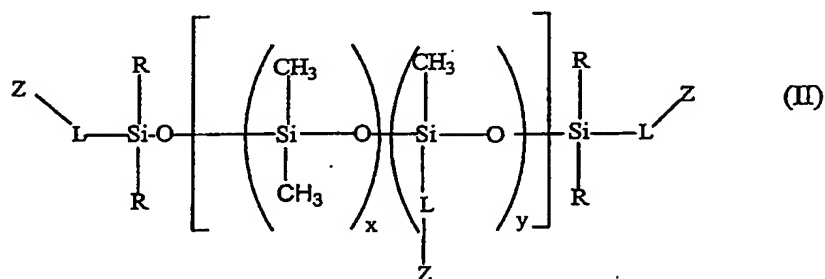
q is from 0 to 2%;

s is from 0 to 2%;

the molecular weight of the macromonomer being more than 3,000; and

wherein  $o + p = 0$  when L or  $R_1$  contain fluorine.

10 6 A macromonomer of general formula:



wherein:

R is  $R_1$  or L-Z;

$R_1$  is independently  $C_1$  to  $C_6$  alkyl or perfluorinated  $C_1$  to  $C_6$  alkyl;

15 L is a spacer group;

Z is a crosslinkable group;

the molar percentage of:

x is from 90 to 100%;

y is from 1 to 10%; and

20 the molecular weight of the macromonomer being more than 3,000.

7 A macromonomer according to claim 5 or 6 in which each  $R_1$  is independently  $C_1$  to  $C_6$  alkyl or perfluorated  $C_3$  to  $C_6$  alkyl.

- 8 A macromonomer according to claim 5 in which both terminal Si residues are bound to identical or different L-Z groups.
- 9 A macromonomer according to any one of claims 5 to 8 that is a random copolymer.
- 5 10 A macromonomer according to any one of claims 5 to 9 in which Z is an ethylenically unsaturated free radical polymerisable group.
- 11 A macromonomer according to claim 10 in which Z is an acryl or substituted acryl, methacryl or functional analogue of (meth)acryl capable of undergoing crosslinking reactions with a photoinitiator.
- 10 12 A macromonomer according to claim 11 in which Z is a (meth)acryl group.
- 13 A macromonomer according to claim 11 in which Z is selected from the group consisting of acrylamidoalkyl, methacrylamidoalkyl, acryloxyalkyl and methacryloxyalkyl.
- 14 A macromonomer according to any one of claims 5 to 9 in which Z is an isocyanate or epoxy group.
- 15 15 A macromonomer according to any one of claims 5 to 14 in which L is a linear, branched or cyclic hydrocarbon chain, optionally including hetero atoms, carbonyl and other substituted atoms.
- 16 A macromonomer according to any one of claims 5 to 15 in which L is bonded to the silicon atom following reaction of an allyl group with a silicon hydride group.
- 20 17 A macromonomer according to any one of claims 5 to 16 in which n is from 50 up to but not including 100%.

- 18 A macromonomer according to any one of claims 5 to 17 in which m is from 0 up to 5% and o is from 0 up to 25%.
- 19 A macromonomer according to any one of claims 5 to 18 in which the total molar percentage of m + p + q + s is less than 3%.
- 5 20 A macromonomer according to any one of claims 1 to 19 having a specific gravity of less than 1.
- 21 A macromonomer according to any one of claims 1 to 20 in which at least one terminal monomer has two or more crosslinkable groups.
- 22 A macromonomer according to any one of claims 1 to 21 including di-  
10 aromatic substitutions along the backbone or perfluorinated alkyl substitutions on the backbone.
- 23 A macromonomer according to any one of claims 5 to 22 having a molecular weight of between 50,000 and 300,000.
- 24 A macromonomer according to claim 23 having a molecular weight of  
15 between 60,000 and 160,000 and an elasticity (E) modulus between 0.1 and 5 kPa.
- 25 A method of preparing a macromonomer according to any one of claims 1 to 24 wherein hydride terminal groups, preferably a methylidisiloxane, are used as intermediate reactants with cyclic oligomers.
- 20 26 A macromonomer obtained by the method of claim 25.
- 27 A composition curable into an accommodating intraocular lens including a macromonomer according to any one of claims 1 to 24.
- 28 A composition according to claim 27 curable *in vivo*.

- 29 A composition according to claim 27 which is curable by ultraviolet or visible light.
- 30 An intraocular lens formed by curing a composition according to any one of claims 27 to 29.
- 5 31 A method of implanting an intraocular lens comprising introducing a composition according to any one of claims 27 to 29 into a capsular bag and then curing the composition.
- 32 An intraocular lens formed from a macromonomer according to any one of claims 1 to 24 or 26.